We Claim:

1. An apparatus for the enhanced detection of a biological reaction between a sample and an active area of a biochip, the apparatus comprising:

a biochip having an active area, and

a fluidic system adapted to flow the sample over the active area of the biochip.

2. The apparatus for enhanced detection of a biological reaction of Claim 1 wherein the fluidic system is in direct contact with the biochip.

3. The apparatus of Claim 1 for enhancing the detection of biological reactions wherein the fluidic system includes a flow cell.

4. The apparatus for enhanced detection of biological reactions of Claim 3 wherein the flow cell substantially surrounds the active area of the biochip.

5. The apparatus for the enhanced detection of a biological reaction of Claim 4 wherein the flow cell further includes a window adapted to permit radiation from the active area of the biochip to external of the apparatus.

6. The apparatus for enhanced detection of a biological reaction of Claim 5 wherein the window is a ports window.

7. The apparatus for enhanced detection of a biological reaction of Claim 3 wherein the flow cell has a defined volume.

8. The apparatus for enhanced detection of biological reactions of Claim 7 wherein the flow cell has a volume from substantially 5 to 10 microliters.

9. The apparatus for enhanced detection of a biological reaction of Claim 3 wherein the flow cell further includes an inlet port and an outlet port.

10. The apparatus for enhanced detection of a biological reaction of Claim 9 further including a reservoir attached to the outlet port.

11. The apparatus for enhanced detection of a biological reaction of Claim 10 wherein the reservoir comprises a waste tube.

12. The apparatus for enhanced detection of a biological reaction of Claim 10 wherein the reservoir comprises an expandable structure.

13. The apparatus for enhanced detection of a biological reaction of Claim 1 wherein the biochip is disposed on a circuit board.

14. The apparatus for enhanced detection of a biological reaction of Claim 13 wherein the circuit board is a PCMCIA board.

15. The apparatus for enhanced detection of a biological reaction of Claim 13 further including wires connecting the biochip to the circuit board.

16. The apparatus for the enhanced detection of a biological reaction of Claim 15 wherein the circuit board is a printed circuit board.

17. The apparatus for the enhanced detection of a biological reaction of Claim 15 wherein the wires are embedded in a protective material.

18. The apparatus for enhanced detection of a

biological reaction of Claim 17 wherein the protective material comprises the ultraviolet light resistant epoxy.

19. A method for the enhanced detection of a biological reaction between a sample containing material to be detected and a biochip, the biochip having an active area, comprising the steps of:

flowing the sample over the active area of the biochip,

activating the biochip for the detection of the material within the sample, and

flowing the material to a reservoir.

20. The method for enhanced detection of a biological reaction of Claim 19 further including the step of detecting the presence of the sample material at the biochip.

21. The method for enhanced detection of a biological reaction of Claim 20 wherein the detection step comprises optical detection.

22. The method for enhanced detection of a biological reaction of Claim 21 wherein the optical detection includes fluorescence detection.

23. An optical detection system for providing radiation to a region of interest of a sample and for providing radiation from the region of interest to a detector, comprising:

an excitation fiber having an input end and an output end,

a light guide adapted for disposition between the region of interest of the sample and the detector, and

the excitation fiber including an axially region, the axially region including the output end of the exci-

tation fiber, wherein the excitation fiber in the axially region is substantially parallel to the axis of the light guide.

24. The optical detection system of Claim 23 wherein the excitation fiber is a fiber optic.

25. The optical detection system of Claim 23 wherein the light guide comprises a liquid light guide.

26. The optical detection system of Claim 23 further including an excitation source adapted to provide radiation to the excitation fiber at its input end.

27. The optical detection system of Claim 26 wherein the excitation source is a laser.

28. The optical detection system of Claim 23 further including a fiber launch system optics adapted to receive radiation from an excitation source and to provide it to the input end of the excitation fiber.

29. The optical detection system of Claim 23 wherein the axial region of the excitation fiber is coaxial with the light guide.

30. The optical detection system of Claim 23 wherein the light guide further includes optical elements.

31. The optical detection system of Claim 30 wherein the optical elements include at least one lens.

32. The optical detection system of Claim 31 wherein the optical elements include a proximal lens adapted to receive the radiation from the region of interest.

33. The optical detection system of Claim 32 wherein the proximal lens includes an aperture through which the output end of the excitation fiber is disposed.

34. A method for hybridization analysis between a sample and a probe, the analysis utilizing an electronic stringency control device, comprising the steps of:

providing the sample and probe with a fluorescent label under hybridization conditions on the electronic stringency control device, forming a fluorescently labelled hybridization product,

monitoring the fluorescence from the hybridization product,

subjecting the hybridization product to varying electrophoretic force, and

analyzing the fluorescent signal.

35. The method for hybridization analysis of Claim 34 wherein the fluorescence is analyzed for the fluorescent perturbation value.

36. The method for hybridization analysis of Claim 35 wherein the fluorescence perturbation value is measured for the onset value.

37. The method for hybridization analysis of Claim 35 wherein the fluorescence perturbation value is measured for its height.

38. The method for hybridization analysis of Claim 35 wherein the fluorescence perturbation value is measured for the slope.

39. The method for hybridization analysis of Claim 34 wherein the fluorescence is analyzed for the power level of the perturbation.

40. The method for hybridization analysis of Claim 34 further including the steps of:

determining a second measure of hybridization between the sample and the probe, and

combining the information obtained by the first analysis including the step of subjecting the hybridization product to the varying electrophoretic force in the second measure to provide a indication of hybridization.

41. The method for hybridization analysis of Claim 40 wherein the second measure of hybridization includes determination of the electronic melting point.

42. The method for hybridization analysis of Claim 34 wherein the fluorescent label is placed in proximity to the initial denaturation site.

43. The method for hybridization analysis of Claim 42 wherein the fluorescent label is intercalcated adjacent a single based mismatch site.

44. The method for hybridization analysis of Claim 43 wherein the fluorescent label is ethidium bromide.

45. The method for hybridization analysis of Claim 43 wherein the fluorescent label is acridine.

46. The method for hybridization analysis of Claim 34 wherein the electrophoretic force is in an amount less than is necessary to effect dehybridization of the sample and the probe.

47. The method for hybridization analysis of Claim 34 wherein the hybridization product is subject to an oscillating electrophoretic force.

48. A method for DNA fingerprinting on an electronically addressable array, the array having capture probes at individual test sites and fluorescent markers associated with the hybridized materials at the sites, comprising the steps of:

hybridizing DNA fragments of a first length to the capture probes at a first test site,

hybridizing DNA fragments of a second length to the capture probes at a second test site,

observing the fluorescent signal from one or more test sites as the potential at the electronically addressable array site is reversed, and

detecting those sites which achieve dehybridization at a potential.